Forsythe II Project
Proposed Action Design Criteria
December 2015

All Treatment Areas

1. Following project implementation, at least 70% effective ground cover should be maintained within mechanical and hand treatment units to lower the risk of soil erosion. Effective ground cover includes surface rock cover, pine needle cover, and cover provided by low lying vegetation and mulch.

2. In chipped areas, chip depth shall average less than 3 inches. Chip depth of up to 5 inches may occur over small areas (not to exceed 5% of the treatment unit). Chips shall be distributed in a mosaic pattern over no more than 30% of the activity area.

3. In masticated areas, chunks shall be distributed to avoid dense accumulations that could potentially impede growth of native grasses, forbs or seedlings.

4. All treatment areas would be reviewed by a U.S. Forest Service Landscape Architect prior to final unit layout. Units shall mimic the scale of natural openings where feasible and achieve a natural appearing shape. Unit boundaries shall be natural edges whenever possible and prevent the appearance of uniform tree spacing and straight line unit boundaries. Straight line boundaries shall be treated by 'feathering[1]' and 'scalloping[2]'.

5. Leave live and dead wildlife trees as individually designated by a U.S. Forest Service Wildlife Biologist and/or according to marking guidelines agreed to in coordination with a U.S. Forest Service Wildlife Biologist, Silviculturist, Fuels Planner, and prep crews. Leave trees may include trees with cavities, trees with large squirrel middens, and/or Abert's squirrel nest trees.

6. Within treatment units where Rocky Mountain juniper occurs, leave an average of one large individual, or clump of three or more if available, Rocky Mountain Juniper per acre.

7. If a federally listed or U.S. Forest Service sensitive wildlife species is identified within treatment units or areas potentially impacted by proposed project activities prior to or during implementation, a U.S. Forest Service Wildlife Biologist would be contacted as soon as possible to ensure Forest Plan direction and Endangered Species Act requirements are met.

8. If raptor nesting activity (e.g. nesting behavior, nest sites, or fledglings) is detected within treatment units or areas potentially impacted by proposed project activities prior to or during implementation, a U.S. Forest Service Wildlife Biologist would be contacted as soon as possible to ensure Forest Plan direction for nesting raptor protection are met.

9. Retain a minimum of five of the largest available dead trees, in clumps where available, minimum 8" DBH for lodgepole and 10" for ponderosa pine and Douglas-fir, per acre, as an average across each treatment unit. Give preference to retaining ponderosa pine snags where available. Criteria for snag selection would be specified in the silviculture prescription with emphasis on retaining the largest diameter snags present. If the minimum number of snags is not available, then the largest available live, green replacement trees would be retained for future snags.

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[1] To 'feather' would be to go from a clearcut or maximum thinned density to existing stand density in 50 to 200 feet in a gradual progression.

[2] To 'scallop' would be to cut curvilinear edges of varying wavelength and amplitude for example, a short one followed by two long ones, and then a medium one, etc.

10. Retain a minimum of 5 logs and 100 linear feet per acre of existing down logs distributed randomly across each unit, with a minimum diameter of 8 inches for lodgepole pine and 10 inches for other conifer species. Do not cut live trees to meet this criterion, except where live trees would be cut according to the prescription in lodgepole pine patchcuts and clearcuts. Jackstrawed bole wood, created by treatment, 6 inches in diameter or greater and left in the unit must be scattered and be in contact with the ground. Individual boles of 6 inches or greater can be left unbucked.

11. Within flammulated owl territories:

    a. Thin small and medium sized trees to maintain large-open grown canopies.
    b. Retain live trees, 12 inches DBH and greater, including on ridgelines.
    c. In riparian areas, leave all trees with existing cavities and remove conifers less than 8" DBH except those with cavities.

12. All treatment units adjacent to existing raptor nests would be resurveyed the nesting season prior to implementation. This is to ensure that the birds have not moved their nests into an active unit.

13. Buffer known roost locations for Fringed myotis bat and Townsend's big-eared bat from treatment activities during key activity times. Prescribed burning should avoid smoke saturation of roost sites during key activity times.

14. Sensitive plant species and species of local concern locations would be determined by a U.S. Forest Service Botanist and designated buffers would be applied.

15. All areas potentially impacted by proposed project activities that have not been surveyed for rare plants and that contain high-quality suitable habitat for sensitive and local concern plant species would be surveyed in such habitat prior to disturbance activities.

16. To minimize risk of noxious weed introduction and spread, require all equipment to be used for ground-disturbing activities for this project (not including service trucks or other vehicles that remain on roadways) to be cleaned, i.e., free of mud, dirt, plant parts, and seeds, or other debris that could contain or hold seeds, prior to entering the project area. All wheeled or tracked vehicles, including trailers, or other equipment entering constructed temporary roads shall be cleaned prior to entry to the project area. Equipment would be considered free of soil and other debris when a visual inspection does not disclose such material. Equipment shall be re-cleaned prior to transfer from a unit where noxious weeds are known to be present into a unit where noxious weeds are not known present.

17. For known weed occurrences and for any new noxious weed infestations found in or near units prior to or during implementation of fuels treatment, fuels implementation personnel would coordinate with U.S. Forest Service District Invasive Plants Coordinator to implement appropriate prevention measures, such as avoidance, treatment of weeds prior to fuels implementation, and/or additional equipment cleaning requirements, such as between infested and uninfested units.

18. Coordinate with U.S. Forest Service District Invasive Plants Coordinator to locate landings, staging areas, skid trails, burn piles, and other areas of severe soil disturbance to best reduce risk of spread of invasive plants.

19. Comply with the most current U.S. Forest Service Rocky Mountain Region Order requiring use of certified weed-free hay, straw, or mulch in all U.S. Forest Service activities. Use non-agricultural mulch materials if practicable (e.g. wood straw or shred); otherwise use agricultural mulch approved by the U.S. Forest Service in advance of purchase.

20. To avoid damage to the Boulder Gravity Line, driving across the line shall be avoided.

21. Consultation with Denver Water Board shall occur for any project activities occurring within the FERC boundary for the Gross Reservoir Hydroelectric Project.

22. There are several utility (electric, natural gas and communication) lines within the project area. Care should be taken when working around these lines to avoid damage to them or their infrastructure.

23. Recreation infrastructure (such as gates, fences, sign kiosks, picnic tables) shall be protected from damage from all treatment activities. Any damaged facilities or infrastructure shall be repaired or replaced.

24. Public outreach and notification shall occur prior to major project activities to raise public awareness. Local agency cooperators would be notified about the duration, intensity, and potential issues for the project work.

Mechanical Treatment Areas

1. No mechanical logging equipment (e.g. feller-bunchers, skidders, etc.) shall be permitted to operate within a 100 foot buffer from the edge of the water around perennial streams[3], intermittent streams[4], lakes, ponds, wetlands, fens, or wet meadows[5]. A no mechanical treatment buffer of 328 feet (100 meters) from the edge of the water shall be established around Winiger Gulch and the unnamed southern tributary to Winiger Gulch as shown in the attached map. Activities that shall be excluded from the buffer include:

    - Mechanical fuels treatment operations using heavy equipment
    - Machine piles
    - Vehicle service and fueling areas

2. For ephemeral streams[6], equipment shall be excluded from the stream channel, except to cross at points designated by a U.S. Forest Service Contract or Sale Administrator(s).

3. Limit operation of heavy equipment to slopes of less than 30%. Slopes up to 40% may be considered on a site specific basis and would require evaluation by a Soils Scientist.

4. Slash take back would only be allowed on skid trails, in patchcut/clearcut units where it is needed to meet the coarse and fine woody debris retention criteria (see Patchcut/Clearcut Units, 1a and 1b), or other areas designated as adversely impacted by a U.S. Forest Service Soil Scientist/Hydrologist/COR/Sale Administrator, for soil stabilization, and to a maximum depth of 18 inches.

5. A cultural resource inventory would be completed on all units that have been identified by a U.S. Forest Service Archaeologist in consultation with the State Historic Preservation Officer (SHPO). The survey and reports would be completed and sent to the SHPO prior to project implementation. Implementation would not begin until the SHPO has concurred with a determination of *no historic properties affected* or *no historic properties adversely affected*.

6. Sites located during the field inventory that are evaluated as eligible for the National Register of Historic Places (NRHP), would have a 50 foot buffer placed around the exterior site boundary. No mechanical treatment would occur within the site boundary and the 50-foot buffer. When treatment is necessary, eligible sites and the 50-foot buffer would be hand treated for hazard trees and accumulated fuel build up by hand

[3] Perennial Streams: Streams that carry water year round.

[4] Intermittent Streams: Streams that carry water for at least some period of time annually, sufficient to maintain a defined streambed.

[5] Wetlands, fens, and wet meadows may occur within or adjacent to treatment units. These features may not be mapped and may only be discovered during unit layout.

[6] Ephemeral Streams: Streams that carry water only during precipitation or runoff events. Ephemeral streams do not have a defined streambed and do not support riparian vegetation.

felling trees. Slash would either be hand piled for chipping and/or bucked up by hand, and loaded onto rubber tired vehicles to be hauled to designated burn piles for burning. No thinning, pile burning, or other slash treatments would occur within these buffers unless determined to be appropriate by a U.S. Forest Service Archaeologist.

7. All NRHP eligible or unevaluated sites within the units proposed for mechanical treatments would be flagged on the ground for avoidance during implementation.

8. Previously undiscovered sites encountered during the course of project activities would be avoided until they can be evaluated by a U.S. Forest Service Archaeologist. If affected properties are discovered after project activities are completed, the U.S. Forest Service would document any damage and consult with SHPO and Council pursuant to the procedures in 36CFR Part 800.13(b).

Manual Treatment Areas

1. Tree cutting of conifers can occur to the edge of the stream bank for perennial, intermittent and ephemeral streams. No woody riparian vegetation (e.g. willows, alders, river birch, etc.) shall be cut. Trees shall be directionally felled away from stream channels where practicable.

2. Retain all existing down woody material 5 inches DBH or greater within 100 feet of riparian areas. This applies to Units 40, 44, and 74.

3. Lopped and scattered slash shall be removed from the stream channel of perennial, intermittent and ephemeral streams.

4. No tree cutting shall occur within wetlands, fens, or wet meadows. These features may not be mapped, and may only be discovered during unit layout.

Mixed Conifer Areas

1. Trees shall be marked as either leave trees or cut trees, whichever is most efficient, prior to any cutting.

Patchcut/Clearcut Areas

1. Retain coarse and fine woody debris (CWD and FWD) throughout clearcut/patchcut units to maintain long term soil productivity

    a. At least 8 tons/acre of CWD[7], with preference for large diameter material (boles)
    b. At least 4 tons/acre of FWD[8]

2. Involve a U.S. Forest Service Wildlife Biologist during layout of patchcuts/clearcuts to determine needs for narrow areas and/or island exclusions for wildlife crossing and cover.

Old Growth/Effective Habitat/Interior Forest Areas

1. In Management Area 3.5, exclude vegetation treatment from inventoried or discovered lodgepole pine old growth per Forest Plan standard. Exceptions may be made if the lodgepole old growth is considered non-functional at time of implementation. This determination of functionality is to be made for the stand as a whole within the treatment unit. (See Old Growth Criteria, Forest Plan FEIS, Appendix B, p. 11).

2. Where effective habitat occurs in treatment units, unit boundaries and/or canopy cover reduction may be modified as determined by a wildlife biologist, if needed to maintain these habitats. This applies to portions

[7] Coarse woody debris is defined as material >3 inches in diameter

[8] Fine woody debris is defined as material <3 inches in diameter

of Units 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 26, 27, 28, 29, 40,41, 46, 47, 48, 49, 52, 56, 57, 58, 59, 60, 73, 74, and 77.

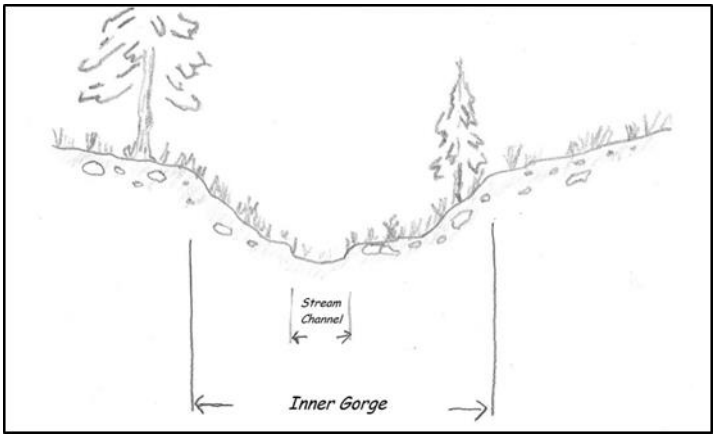
3. Within mapped interior forest and within a 328 foot buffer around mapped interior forest, retain at least 40% canopy cover. This applies to portions of Units 29 and 77.

4. Retain a minimum of five of the largest available dead trees, minimum 8" DBH for lodgepole and 10" for ponderosa pine and Douglas-fir, per acre, as an average across old growth retention and inventoried stands within a treatment unit. Give preference to retaining ponderosa pine snags where available. Criteria for snag selection would be specified in the silviculture prescription with emphasis on retaining the largest diameter snags present. If the minimum number of snags is not available, then the largest available live, green replacement trees would be retained for future snags.

Slash Piles

1. To the extent practicable, construct machine slash piles on landings. If machine piling is done off landings, conduct piling to leave topsoil in place and to avoid displacement of topsoil. Machinery that lifts and places material into burn piles is recommended over machinery that pushes or drags material into burn piles.

2. Hand constructed burn piles shall be located at least 50 feet from perennial streams, wetlands, fens, wet meadows, and aspen stands. For intermittent and ephemeral streams, burn piles shall be located 50 feet from the stream or outside the inner gorge, whichever is less. For Preble's meadow jumping mouse, piles shall be located at least 100 feet from the edge of the water around Winiger Gulch and the unnamed southern tributary to Winiger Gulch. If it not practicable to locate piles sufficiently away from streams, or if doing so would violate other requirements (e.g. minimum spacing between piles, minimum distance from residual trees), do not cut the water adjacent trees, unless approved by a U.S. Forest Service Soil Scientist, Hydrologist, or Fish Biologist.



Inner Gorge: Many streams exhibit a sharp increase in slope as the stream channel is approached. The first sharp break in slope on either side of the stream defines the inner gorge.

3. To minimize long-term effects of pile burning, watershed, botany and/or implementation personnel would conduct surveys to identify if and where burn pile restoration actions are needed following pile burning activities. Any combination of the following restoration actions would be recommended if/where needed:

    a. Tilling/scarifying after burning to promote recovery by breaking up water repellent layers, increasing water infiltration, and mixing in organic material from areas adjacent to the pile.
    b. Weed treatments
    c. Seeding

d. Covering with litter, duff and/or slash

4. Burn piles should be located out of sight of significant viewpoints as designated by a U.S. Forest Service Landscape Architect whenever possible within the constraints of the contract.

5. In treatment units where slash is piled by hand, leave two piles per acre for wildlife habitat, randomly distributed throughout the unit.

6. Minimum pile size, hand or machine created, shall be no less than 6' high by 6' wide.

7. Consult U.S. Forest Service Fuels Specialist during contract preparation for current maximum pile size and pile separation requirements as regulated by the Colorado Air Pollution Control Division.

8. Piles shall be constructed in a manner to minimize large air spaces and dirt within the piles. Piles shall not have material extending more than 4 feet in any direction beyond the pile perimeter and a minimum of 4 feet of separation from pile perimeter to surrounding down woody material to reduce unwanted fire spread.

9. Construct a minimum of a 6 foot wide control line, down to bare mineral soil, around each machine pile to create separation between piled material and surrounding slash mat. If piles are grouped, a single control line may be placed around the entire group rather than around individual piles. The scraped material must be moved outward to avoid a berm adjacent to the piles' edge.

10. In machine units, reasonably gather and place activity slash material, 1" to 6" diameter, into piles. If more than 50% of a treatment unit has continuous slash depth greater than 6 inches after initial treatment, additional piling would be required.

11. In hand units, pile sound, existing and/or created slash material, 1" to 6" diameter and 2 feet or longer. Alternatively, any slash that must be moved more than 50 feet to meet minimum required pile size may be lopped and scattered to a maximum depth of 18 inches.

12. Locate machine piles a minimum of 150 feet and hand piles a minimum of 50 feet from any infrastructure or private property boundary.

Broadcast Burning

1. Limit total unrecovered burned area within the project area to no more than 340 acres.

2. Design and implement prescribed fire for low soil burn severity effects and rapid recovery[9] of ground cover. Soil burn severity classes are defined in the Field Guide for Mapping Soil Burn Severity (http://www.fs.fed.us/rm/pubs/rmrs_gtr243.pdf).

3. Rehabilitate constructed fire lines by installing water bars, raking topsoil back over the line, covering with slash or other mulch materials; and seeding, if recommended by a U.S. Forest Service Botanist.

4. A 300 foot buffer shall be established around Winiger Gulch and the unnamed southern tributary to Winiger Gulch as shown in the attached map. No active ignition shall occur within the buffer. Fire would be allowed to back down into riparian areas and streamside zones. If needed to accomplish burn objectives or to provide for safety, establishment of control features (e.g. fire lines) or active ignition may occur within the buffer following consultation and agreement with a U.S. Forest Service fish biologist, soil scientist or hydrologist.

[9] An unrecovered burn is one that has insufficient ground cover to reduce runoff, erosion, and sedimentation rates to pre-burn conditions. Typical recovery time is 2-4 years, but is highly variable with vegetation type and precipitation.

5. Conduct burning operations so that no more than 10% of either stream bank area within riparian zones burns with high intensity (i.e. top kill of willow and/or aspen). Actively suppress fire if this 10% threshold is exceeded.

6. No active ignition shall occur within 25 feet of ephemeral streams.

7. In prescribed burn Units 38 and 44, choose individuals or clumps of three or more, if available, Rocky Mountain juniper to leave that are not ladder fuels for other conifers 12"+ DBH. Leave trees should be at least 300 feet away from property boundaries and prescribed burn containment lines.

8. Prior to prescribed burning in Units 38 and 44 within inventoried old growth, old growth retention, and identified old growth development areas, remove ladder fuels from around trees 12" DBH and larger to minimize fire moving into crowns of these larger trees. Where feasible, such as near firelines during mopup, moisten coarse woody material within root zones of trees 12" DBH and larger, to minimize root damage from smoldering material.

9. Prior to prescribed burning in Units 38 and 44, scratch fireline around and/or use other techniques to minimize fire impacts to at least 5 logs per acre totaling at least 100 linear feet. These logs should have a minimum diameter of ten inches if available, or largest down logs available.

10. A cultural resource inventory would be completed on all areas within prescribed burn units that have been identified by a U.S. Forest Service Project Archaeologist in consultation with the SHPO. This inventory may be completed after the NEPA decision has been made but prior to burn implementation.

11. All NRHP eligible or unevaluated sites located within prescribed burn units would be marked on the ground by the Project Archaeologist. A U.S. Forest Service Project Archaeologist and Fire Staff would design protection measures to remove the sites from the burn's Area of Potential Effects. These protection measures would take into consideration the site type, environmental setting, and anticipated burn conditions. These protections may include, but are not limited to: fuel breaks, no treatment buffers, wrapping, foaming, wetting, black line, fire line (machine or hand dug), and raking.

12. All potentially ground-disturbing fire lines, staging areas, helispots, and all road improvement, construction or deconstruction, or designated ATV or vehicle routes/ways would be intensively (Class III) surveyed for cultural resources prior to project implementation; any NRHP-eligible cultural resources would be avoided by project design.

13. Additional site protection measures may be required for NRHP-eligible or unevaluated sites located within the secondary burn area. These protection measures would take into consideration the site type, environmental setting, and anticipated burn conditions. These protections may include, but are not limited to: fuel breaks, no treatment buffers, wrapping, foaming, wetting, black line, fire line (machine or hand dug), and raking.

Timing Restrictions

1. Avoid treatment operations from May 1 through August 10 in flammulated owl territories. Avoidance areas would be determined by a U.S. Forest Service Wildlife Biologist based on survey results, flammulated owl territory size, topography, and vegetation. Prescribed burning operations may be conducted if determined to be appropriate by a U.S. Forest Service Wildlife Biologist. This applies to most units in the Winiger Ridge and South Winiger areas (Units 38, 42, 43, 44, 45, 47, 48, 49, 68, 73, 74, 75, and 76).

2. Raptor nest areas, including species-specific buffers, would generally have no treatment activity from March 1 through September 15, depending on species, or until determined unoccupied by the wildlife biologist. Access through buffers during this period would be assessed by a U.S. Forest Service Wildlife Biologist.

a. If known nests become unoccupied, additional surveys would be conducted during the breeding season prior to any project activity. The extent and timing of surveys would be determined by a U.S. Forest Service Wildlife Biologist.
b. Units with suitable nest habitat would also be resurveyed for new nest locations prior to implementation. If a new active nest is detected during surveys or becomes known by other means, appropriate mitigations would be implemented.
c. For northern goshawk nests including alternate nest sites, exclude treatment in up to a 30-acre area containing the nest tree. Site-specific exclusion areas would be determined by a U.S. Forest Service Wildlife Biologist based on topography, vegetation and other factors. Outside of the breeding season, generally from September 16 through February 28, limited thinning may be allowed within this area if determined necessary to help reduce the risk of losing the nest site to wildfire. A U.S. Forest Service Wildlife Biologist would help design and approve treatment.

3. Unless a site-specific exception is determined to be appropriate by a U.S. Forest Service Wildlife Biologist, avoid treatment from December 1 through March 30 in elk severe winter range and winter concentration areas. These areas are based on the most current available mapping data from Colorado Parks and Wildlife. This applies to all units except for Units 29, 30, 31, 32, 33, 49, 61, 62, 37, and 74.

4. Project operations would not be conducted on Memorial Day, 4th of July and Labor Day holiday weekends and on Sundays. Operating times for heavy equipment and chainsaws shall be limited to the hours of 7 a.m. to 7 p.m.

5. Piles outside the 100 foot riparian buffer but within 328 feet of the stream channel may only be burned from November through April 30 during Preble's meadow jumping mouse hibernation. This applies to Units 40, 44, and 74.

Roads/Skid Trails/Temp Roads/Landings/Equipment Use

1. Temporary roads, skid trails, landing areas, and equipment use in mechanical treatment units shall be subject to operating equipment restrictions to protect soil and water. Operate heavy equipment only when soil moisture in the upper 6 inches is below the plastic limit (a ball can be formed in the fist that holds together on gentle tossing or shaking) OR protected by at least one foot of packed snow or 2 inches of frozen soil. This may mean temporary restriction on equipment operation and travel within the treatment area in periods of heavy rains and snow or when soils are wet.

2. The U.S. Forest Service shall approve locations of skid trails and landings prior to treatment. Re-use existing skid-trails as much as practicable to minimize new disturbance. Within mapped effective habitat, a U.S. Forest Service Wildlife Biologist would approve locations of skid trails and landings. This applies to portions of Units 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 26, 27, 28, 29, 40,41, 46, 47, 48, 49, 52, 56, 57, 58, 59, 60, 73, 74, and 77.

3. All temporary road construction, including skid trails, shall be obliterated within one year of completion of use. Project implementation, watershed, soil, and engineering personnel shall cooperate to determine appropriate obliteration methods.

    a. Temporary road surfaces, including skid trails and landings, shall be decompacted along the entire road/skid trail length or landing area unless waived by Soil Scientist. Roads that were constructed with cut and fill shall be partially or fully recontoured or pitted. Roads that were constructed on the natural ground contour shall be pitted, subsoiled, or ripped.

        - Partial recontouring of the road prisms shall be utilized in areas where it is not feasible or beneficial to disturb soils previously unaffected by construction operations to stabilize a decommissioned temporary road. Factors such as steep slopes, large amounts of rock, or

vegetation may impact a decision to utilize partial recontouring. Partial recontouring shall use available fill material from original construction. Fills shall be returned to, and compacted into, the cut removal area. No further ground disturbance involving cutting material shall occur. Handle soil to ensure that minimal segregation of materials occurs. Compaction may be by machine track or bucket. The recontoured surface shall be outsloped a minimum of 5% for the entire road prism width and no berms shall remain. Finished grades shall minimize drainage following the contour of the road, where necessary grade dips shall be installed along the grade to direct drainage off the disturbed area. Where high cut slopes are present, continue pulling up fill material and backfilling cut removal areas until no cut slope remains greater than 1:1 H:V in slope and two feet in height.

- Full recontouring of the road prisms shall be utilized in decommissioning temporary road segments where it is both feasible and advantageous to disturb soil previously unaffected by construction operations to completely recontour the road. Full recontouring shall include pull up of all fill material and place/compact into the cut removal area. Very little disturbance of the natural ground under the fill shall occur. The final slope area, over the entire width of the road prism, shall reproduce the pre-road natural slope. It shall blend in with the surrounding slope and no berms or windrows of any material shall remain.

b. Where applicable, remove all temporary stream crossings and restore stream bed and banks.
c. Restore natural drainage patterns across the road template.
d. Provide effective closure at junctions with open roads to prevent unauthorized use. Effective closure techniques may include recontouring or pitting for site distance, fencing, gates, berms, barrier rocks of various sizes (median size of 2.5 ft x 2.5 ft x 2.5 ft [1 ton], grouped in natural arrangements and 1/3-1/2 buried), plantings, and/or felled trees.
e. Scatter slash on restored disturbance.
f. Restore ground cover using native seed or plants, methods and timing, and soil amendments as practicable to meet revegetation objectives and in consultation with a U.S. Forest Service botany representative. Use government furnished seed when available.

4. Fuels implementation and related contracting would incorporate use of existing and/or previously used areas as much as possible for fuels treatment operations, in order to reduce the amount of new disturbance which usually leads to new "social" routes being created. Any non-system roads which are used for access to fuels treatment units shall be considered to be temporary roads and shall be obliterated following the design criteria for temporary roads.

5. Where topsoil depth exceeds 2 inches, topsoil shall be salvaged and stockpiled from all areas to be disturbed by construction of temporary roads and road improvements and shall be incorporated into the reclamation.

6. Temporary road construction shall be kept to the minimum construction possible to accommodate intended use and shall meet the following guideline.

a. Roads shall not follow fall line of the land but shall traverse contours to minimize slopes. Generally, slopes of 10 percent or less shall be maintained, however reaches of 200 feet or less may be up to 14 percent in slope.
b. Road alignment shall be selected to minimize cuts and fills to 2-foot maximum.
c. Road widths shall be the minimum required for the equipment and shall not exceed 15 feet.
d. Roads shall be outsloped where possible and rolling dips shall be constructed instead of ditches and culverts, wherever practicable, as necessary to control sediment and erosion. Drainage features shall not drain directly into streams. Best Management Practices shall be employed at the termination of drainage features to protect vegetation from sedimentation.

7. Construction of temporary roads and road improvements shall to the extent possible minimize ground disturbance, avoid crossings of drainages, provide buffers to drainages and sensitive areas, avoid steep slopes, avoid wet areas and swale bottoms, avoid unstable slopes, and shall minimize erosion potential and sedimentation of water ways.

8. Planning, construction and maintenance of temporary roads shall include sediment and erosion controls as necessary to prevent resource damage. Such controls are to be maintained and supplemented as necessary through the life of the project.

9. System roads shall not be used during winter and wet periods when there is a reduction in the ability of the road or road structure to support traffic, provide drainage, or provide safe transportation. Examples of reduction in the support value or safety of the roadway include, but are not limited to, soil, mud, debris, or oversized rocks incorporated into the roadway that affect drainage, normal maintenance activities, or the strength of the surface structure; intermixing of slash or subgrade soil with aggregate base; severe alteration of drainage that leads to surface aggregate loss, changes in character of ditches or drainage structures, or concentration of water that harms streams or water sources; accelerated breakdown of asphalt surfaces.

   If removal of snow from system roads for winter operations is allowed, provide adequate maintenance to maintain the road surface structure, drainage of the roadway, and safe passage for vehicles.

   Snow storage areas shall be approved by the U.S. Forest Service. Avoid riparian areas, wetlands or streams for snow storage to the extent possible.

   Space, construct, and maintain drainage holes in the dike of snow or berm caused by snow removal operations. Place drain holes to obtain surface drainage without discharging on erodible fills.

   Perform maintenance work in a manner to preserve and protect roads and appurtenances, and prevent erosion damage to streams and other Forest values.

   Any type of equipment to remove snow may be utilized provided:

   a. The equipment is of the size and type commonly used to remove snow and would not cause damage to the road surface or structure.
   b. The use of plows or dozers to remove snow requires written approval by the U.S. Forest Service. Equip plows or dozers with shoes or runners to keep the dozer blade a minimum of 2 inches above the road surface.

10. Existing road conditions shall be assessed prior to implementation for all roads to be used for the project including County and private roads used to access National Forest lands. Roads shall be maintained in their existing condition through-out the project, if any widening or other improvements are required for the project these improvements shall be assessed at the completion of the project to determine if they are acceptable or need to be removed.

11. When the work is complete the existing roads shall be inventoried to ensure drainage is operational and road surface is intact.

12. Unless the condition of an existing road is suitable for truck and trailer traffic, mechanized equipment shall be ‘walked’ (travel under its own power as opposed to transported on a trailer) into any units where mechanical treatments is planned. These would be designated as “skid roads”.

13. Coordinate all work and traffic that impacts County roads, including hauling, with the County ahead of the work commencing. Obtain County permits as necessary.

14. Coordinate with road users, who would be impacted by the work, obtain access as necessary and contact information for any temporary closures or other coordination.

15. All roads impacted by project activities shall have warning signs and traffic control as follows:
    a. In accordance with the "Manual of Uniform Traffic Control Devices."
    b. Maintained for through traffic during felling, slash treatment, and/or removal operations.
    c. Left in an operational condition that would adequately accommodate traffic at the end of each work day.
    d. Have barricades erected and/or proper signs placed at any traffic hazards in or adjacent to the road at the end of each workday.
    e. All felled trees shall be decked or removed and slash piled or removed from the bladed, mowed, or brushed road corridor each day.
16. Linear woody material designated to remain from roadway clearing activities shall be placed outside the clearing limits in close contact with, and perpendicular to, the slope. All other available organic and inorganic debris shall be scattered evenly outside of the clearing limits.
17. Roads which have been authorized for private uses should remain available to those uses to the greatest extent possible. Any deterioration of the road should be repaired to a similar or better condition than before project activities occurred.
18. Treatment units that already have off-road impacts and/or the potential for new and increased off-road vehicular use impacts are generally in areas that have a moderate or low slope angle (35% or less), and enough terrain to use the vehicle (four-wheel drive or all-terrain vehicles included). These areas would be protected from further encroachment of motorized vehicles by creating a buffer zone of no treatment or modification of treatment between the road, open for motorized travel, and the treatment area by installing fencing or other barriers made from natural materials (rock or wood). Buffer zones should be wide enough (minimum of 100 feet from edge of road) to discourage attempts at creating new routes. These areas would be identified with input from recreation staff and unit layout personnel prior to final unit boundary designation.
19. NRHP eligible sites located during the field inventory would have a 50-foot buffer established around the exterior boundary of the site. No construction activities would take place within the site and the 50-foot buffer area.
20. All potentially ground-disturbing activities proposed for staging areas, road improvement, construction, or obliteration outside of planned treatment units would be intensively surveyed for cultural resources prior to project implementation. Any NRHP-eligible cultural resources would be avoided by project design.
21. Consultation with Native American tribes must be completed prior to the closure of roads to ensure that access to areas of cultural importance is not inadvertently removed.